



# “THE NEW FRONTIERS OF DIGITAL FINANCE” DECENTRALISED FINANCE – DEFI

Carmine Di Noia  
OECD Directorate for Financial and Enterprise Affairs

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# New Frontiers in Digital Finance: DeFi

## Main themes covered

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- What is Decentralised Finance (“DeFi”) and why do we care?
- What are the potential implications for the traditional financial markets (“TradFi”)?
- What did we learn from the recent crypto-asset market downturn (“crypto-winter”)?
- Why is international cooperation crucial in this market? And what can we learn from this market to improve our existing ways of doing finance?



# What is DeFi? Main Characteristics – in theory...

## BLOCKCHAIN-BASED



### Public, permissionless chains

**Public:** In "public" Blockchains anyone can send a transaction

**DeFi**

**Permissioned:** In "Permissioned" Blockchains, the people transacting are known



**Private:** In "private" Blockchains, only people who are approved to participate can

**Permissionless**  
"Permissionless" Blockchains allow people to act anonymously (you do not know their identity)

## PROTOCOLS RELYING ON SMART CONTRACTS



**ETHEREUM (ERC-20)**

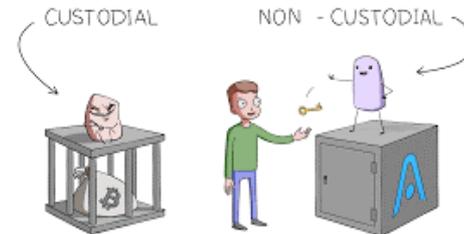


Programmable contracts written as code on the ledger committed to the blockchain  
Self-executing based on triggers

### Open source and Community-driven



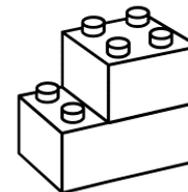
## Non-Custodial



**CUSTODIAL:**  
Third parties (exchanges, brokers) hold and have control over users' crypto

**NON-CUSTODIAL:**  
Users have 100% control over their crypto, owners hold their private keys & data

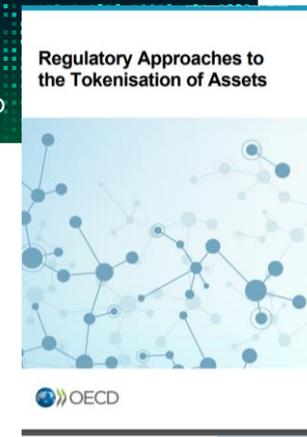
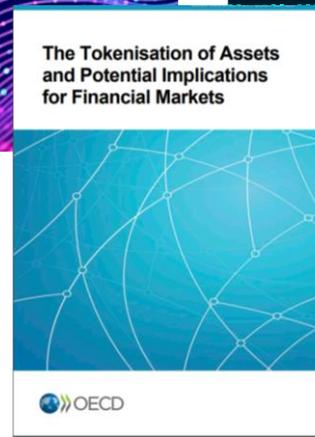
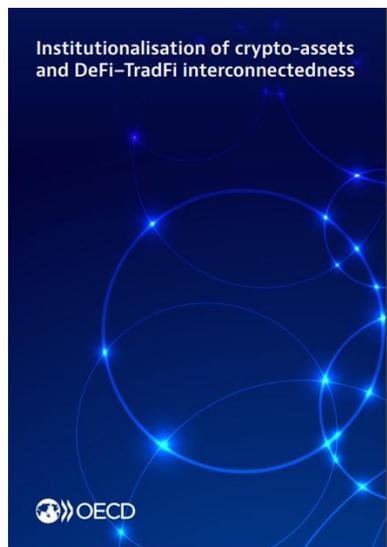
### Composable



**In reality, DeFi today is "Decentralised in Name Only" (DINO)**



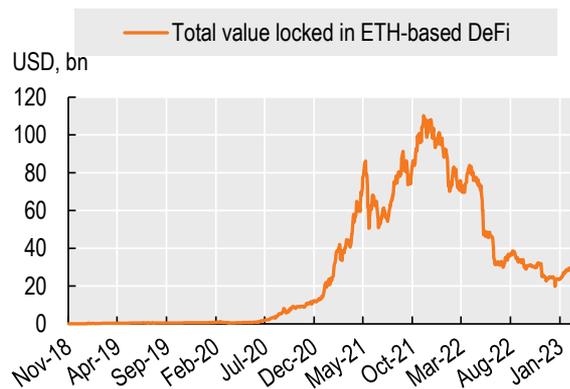
# DeFi at the OECD



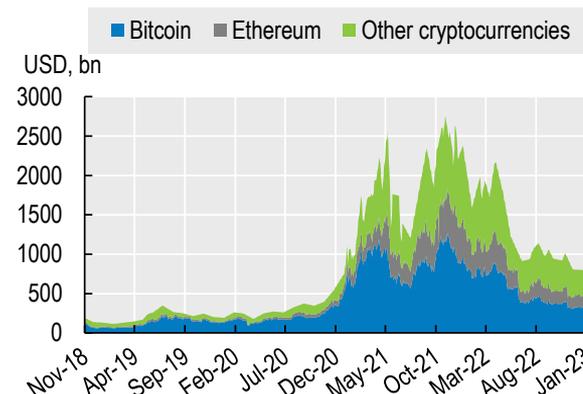
# DeFi: Why do we care?

- **Speed of growth** of DeFi market (before the crypto-winter)
  - Feedback loops with highly-**volatile** crypto-asset markets
- Activity operating in *non-compliant manner* or *outside the regulatory perimeter*
- Increased institutional investor interest/adoption (driven by **leverage** opportunity)
  - Growing risks of increased interconnectedness DeFi – TradFi

## Total Value Locked (TVL) in ETH-based DeFi



## Market capitalisation of major crypto-assets





# DeFi in practice: a long list of emerging risks

## Anonymity and lack of AML/KYC

- Pseudonymity and onboarding

## Regulatory and Compliance

- Non-compliant or outside the remit
- Difficult to identify regulatory access points
- Global reach with no defined jurisdiction

## Operational

- DLT-related operational risks
- Exploits, hacks



## Investor and consumer protection

- Lack of investor protection safeguards (e.g., no recourse/recovery/resolution)
- Difficult to grasp for average user (e.g., automated liquidation)

## Governance

- Accountability
- Market manipulation

## Systemic

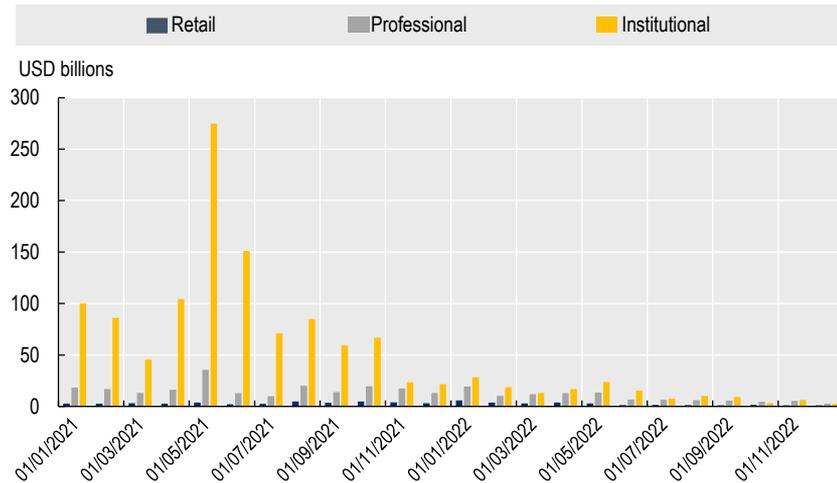
- Pro-cyclicality, leverage
- Liquidity and maturity mismatches
- Risks related to major stablecoins
- Concentration risks (tech, protocols)



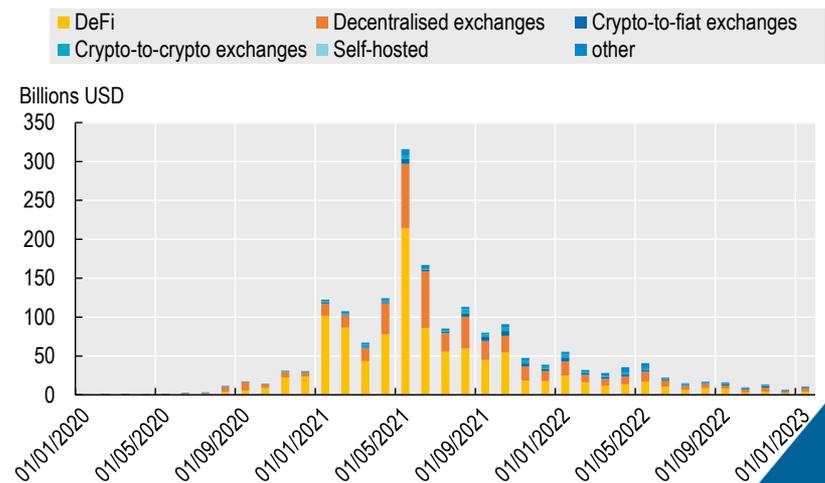
# Institutional interest driven by unrestricted leverage

- DeFi market activity **dominated by institutional and professional investors**
- **More than half of fund inflows** to DeFi come from DeFi → **leverage driver**

### Share of total transaction volume by transaction size (DeFi)



### Monthly USD inflows to DeFi by source



Note: Institutional transactions representing those above USD 1 m, professional between USD 10K and USD 1 m, retail representing those below USD 10K. Crypto-to-crypto exchanges are venues for the trading of cryptocurrencies primarily for other cryptocurrencies, either via a central limit order book or peer-to-peer via a centralised escrow. Crypto-to-fiat exchanges are venues for the trading of cryptocurrencies primarily for fiat, either via a central limit order book or peer-to-peer via a centralised escrow. Source: OECD based on Chainalysis data.

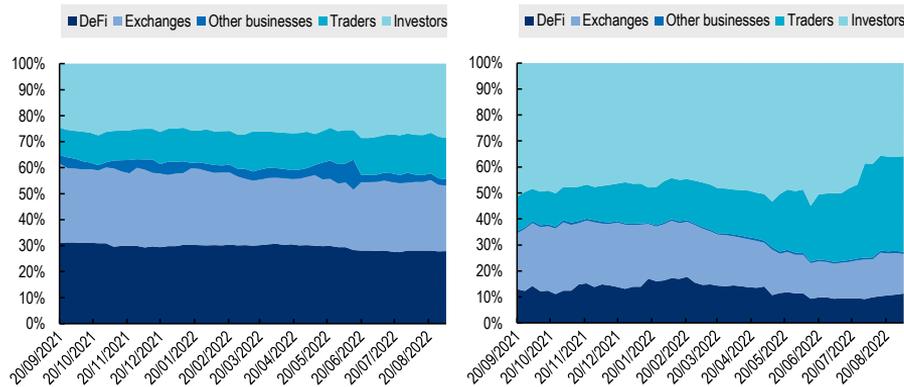


# Stablecoins - the key bridge between TradFi and DeFi

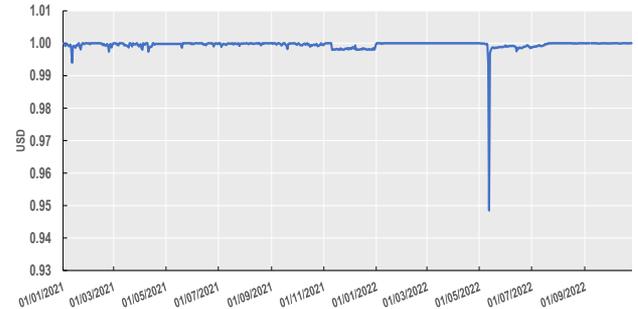
## Risks related to:

- Concentration, transparency around reserves/ credibility, lack of clarity regarding redemption rights of holders
  - Run risk
  - Operational risks and cyber
- ⇒ Disruption in DeFi
- ⇒ Potential spillovers to traditional markets (e.g., short-term credit markets)

**High concentration:**  
Holding distribution of UST, USDC stablecoins



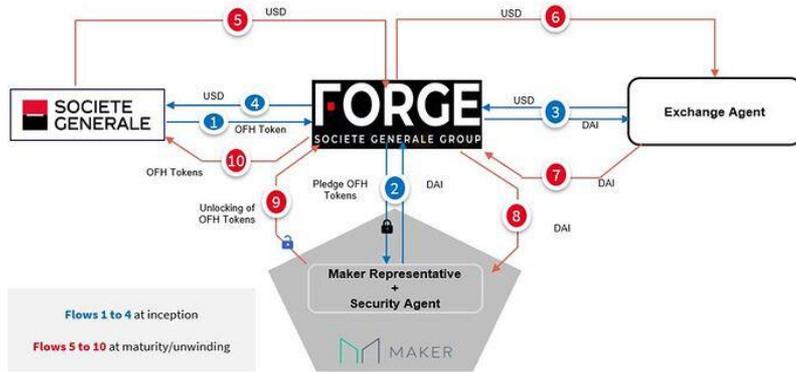
**Confidence effects present in crypto-asset markets:**  
Tether loses its peg during Terra implosion





# A dynamically evolving market with numerous pilots involving TradFi

## Repo-ing tokenised assets on DeFi



## Institutional DeFi: whitelisted pools of KYC-ed participants

### Institutional versions of DeFi protocols

- ✓ Whitelisting of participants
  - ✓ Permissioned networks
  - ✓ KYC/AML checks by third parties

## DeFi protocols investing in traditional assets

### e.g., MakerDao

- ✓ Oct. 6 DAO vote : reallocate USD 0.5bn of its stablecoin Dai collateral reserves into short-term US Treasuries and corporate bonds (80% in US Treasuries)

## Financial institutions pilots of trading on DeFi

### e.g., Monetary Authority of Singapore (MAS) Project Guardian pilot

- ✓ JPMorgan, DBS and SBI Digital Asset execute live FX trade using DeFi, tokenised deposits and verifiable credentials



# Lessons from the crypto-winter call for urgency in policy action

5. Never in my career have I seen such a complete failure of corporate

controls and such a complete absence of trustworthy financial information as occurred here.

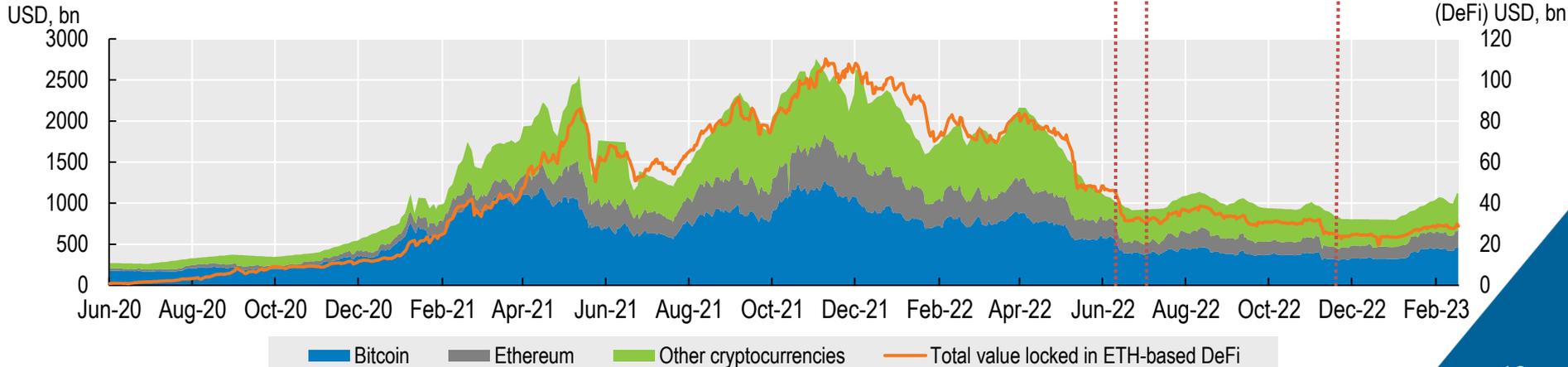
From compromised systems integrity and faulty regulatory oversight abroad, to the concentration of control in the hands of a very small group of inexperienced, unsophisticated and potentially compromised individuals, this situation is unprecedented.

*John J. Ray, FTX liquidator  
Also oversaw the unwinding and liquidation of Enron*

**TerraUSD implosion**  
*circularities and reflexive nature of crypto-assets*

**FTX collapse**  
*poor governance*

**Celsius collapse**  
*Crypto-asset service providers performing multiple conflicting roles*



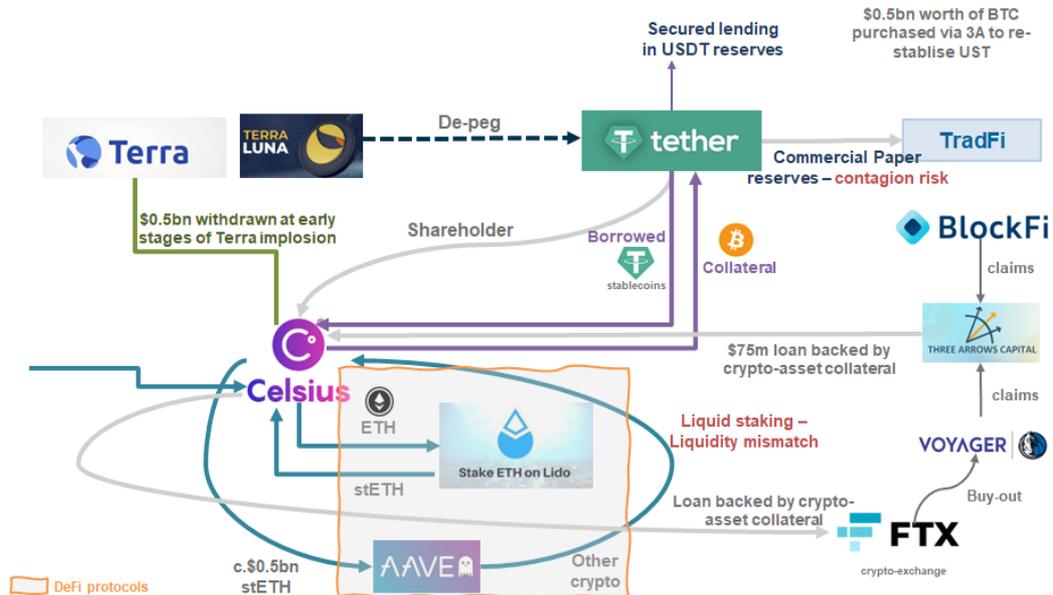


# Lessons from the crypto-winter: a heavily intertwined ecosystem

- Very **opaque** ecosystem, with vast **interconnectedness**
- **DeFi intensified the turmoil** in crypto-asset markets

## A heavily intertwined ecosystem

Schematic representation of interconnectedness based on large crypto-asset firm failures



Source: (OECD 2022), Lessons from the crypto-winter and DeFi vs. CeFi, as of September 2023.



# The critical role of international cooperation

- Participants of this ecosystem operating in a non-compliant manner or outside the regulatory perimeter
  - Serious concerns about consumer protection and market integrity
- Future downturns could have **harsher impact**
- Retail investors disproportionately affected
- **Great progress is being made**
  - MiCA in Europe, Japan, FSB framework for international regulation of crypto-asset activities
- Digital assets and decentralised finance are inherently global by nature → **international cooperation is critical**
  - No one jurisdiction can address these risks without **global coordination** (e.g., crypto-asset mining)
- Still, we should not overlook potential **benefits** of decentralised finance:
- What can we learn from DeFi to **capture potential efficiencies** and allow for **productivity gains in financial market infrastructure**?
  - Atomic settlement and/or post-trade
  - Smart contracts and automation, programmability, encryption
  - Tokenisation
- New frontiers: emergence of CBDCs and other tokenised forms of money (regulated stablecoins, tokenised deposits)



Thank you!

[www.oecd.org/finance](http://www.oecd.org/finance)